

100

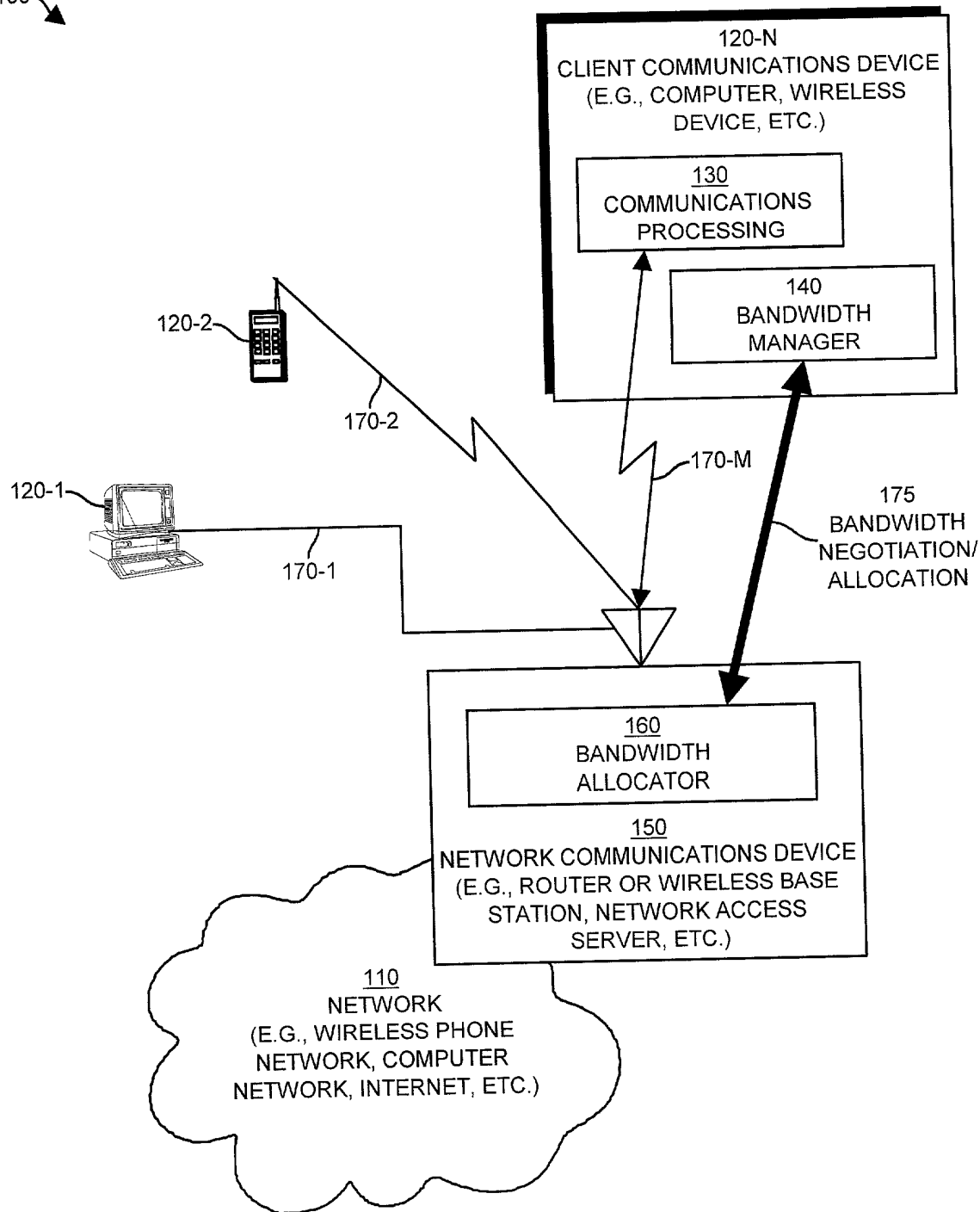


FIG. 1

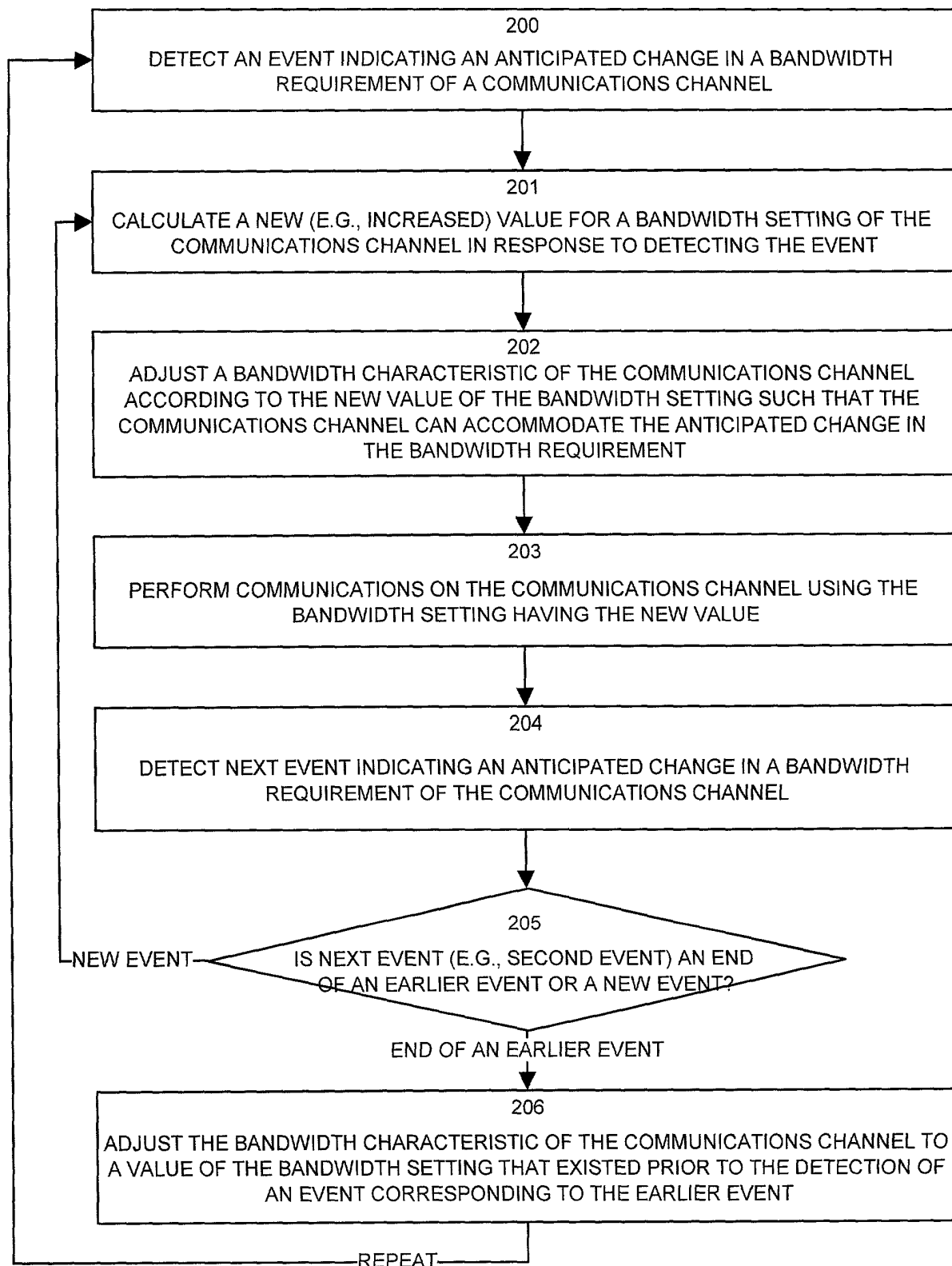


FIG. 2

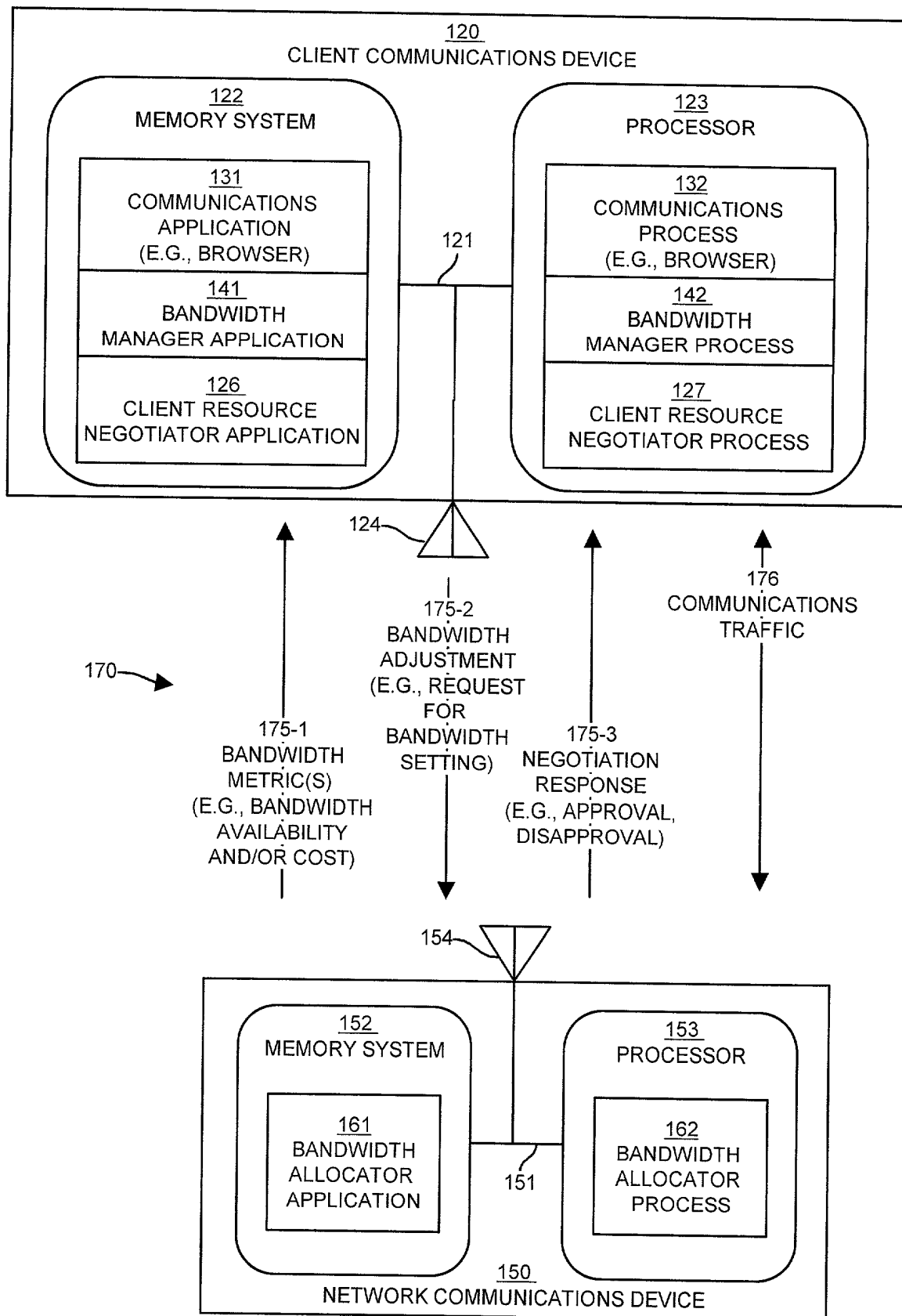
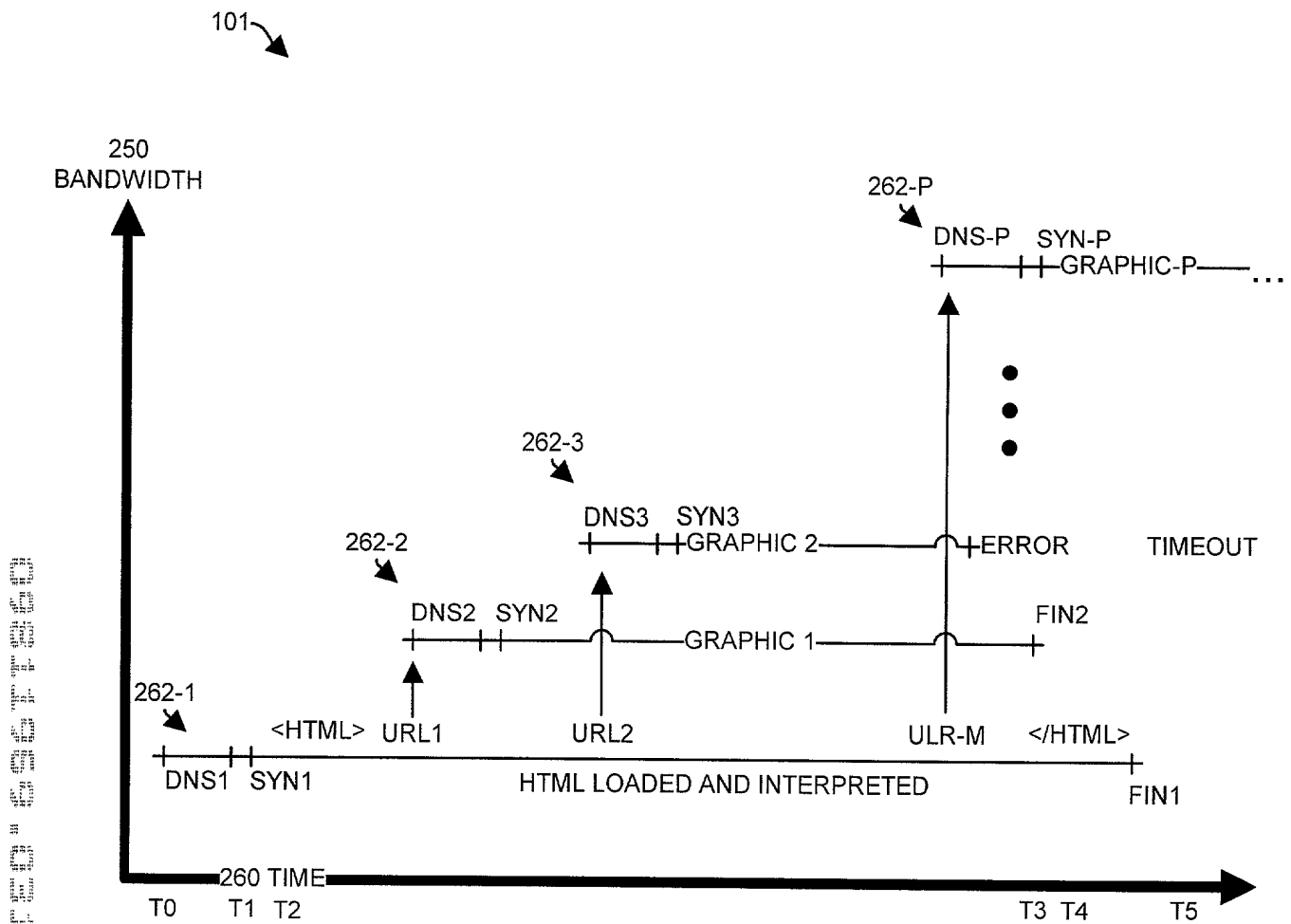


FIG. 3



REAL-TIME DYNAMIC BANDWIDTH ADJUSTMENT

FIG. 4

FIG. 5 is a flowchart illustrating a process for adjusting bandwidth settings based on bandwidth events. The process starts at 300, where a client communications device performs content processing (e.g., in response to user clicking a hyperlink URL). This leads to 301, where a bandwidth manager process detects a bandwidth event (e.g., URL click at start of web page loading, or other bandwidth event during interpretation of web page). The process then enters a decision diamond at 302: "IS BANDWIDTH EVENT A USER BANDWIDTH REQUEST?". If YES, it goes to 303: "RECEIVE BANDWIDTH SETTING FROM USER". If NO, it goes to 304: "DOES BANDWIDTH EVENT CONTAIN BANDWIDTH DETERMINATION FACTOR (E.G., A URL CONTAINING A DATA TYPE) ?". If YES, it goes to 305: "EXTRACT BANDWIDTH DETERMINATION FACTOR FROM BANDWIDTH EVENT (E.G., EXTRACT FILE EXTENSION SUCH AS '.MPG' FROM EMBEDDED URL)". If NO, it goes to 308: "IS BANDWIDTH EVENT AN INCREASE EVENT?". From 305, it goes to 306: "CALCULATE NEW VALUE FOR BANDWIDTH SETTING BASED ON BANDWIDTH DETERMINATION FACTOR". From 306, it goes to 307. From 308, if YES, it goes to 310: "DECREASE BANDWIDTH SETTING TO NEXT LOWER LEVEL". If NO, it goes to 311: "INCREASE BANDWIDTH SETTING TO NEXT HIGHER LEVEL". From 310 and 311, it goes to 307. From 303, it goes to a vertical line labeled "INCREASE OR DECREASE", which then goes to 307. Finally, 307: "PROVIDE NEW BANDWIDTH SETTING TO CLIENT RESOURCE NEGOTIATOR PROCESS TO ADJUST BANDWIDTH CHARACTERISTIC (E.G., BAUD RATE) OF COMMUNICATIONS CHANNEL BASED ON BANDWIDTH SETTING".

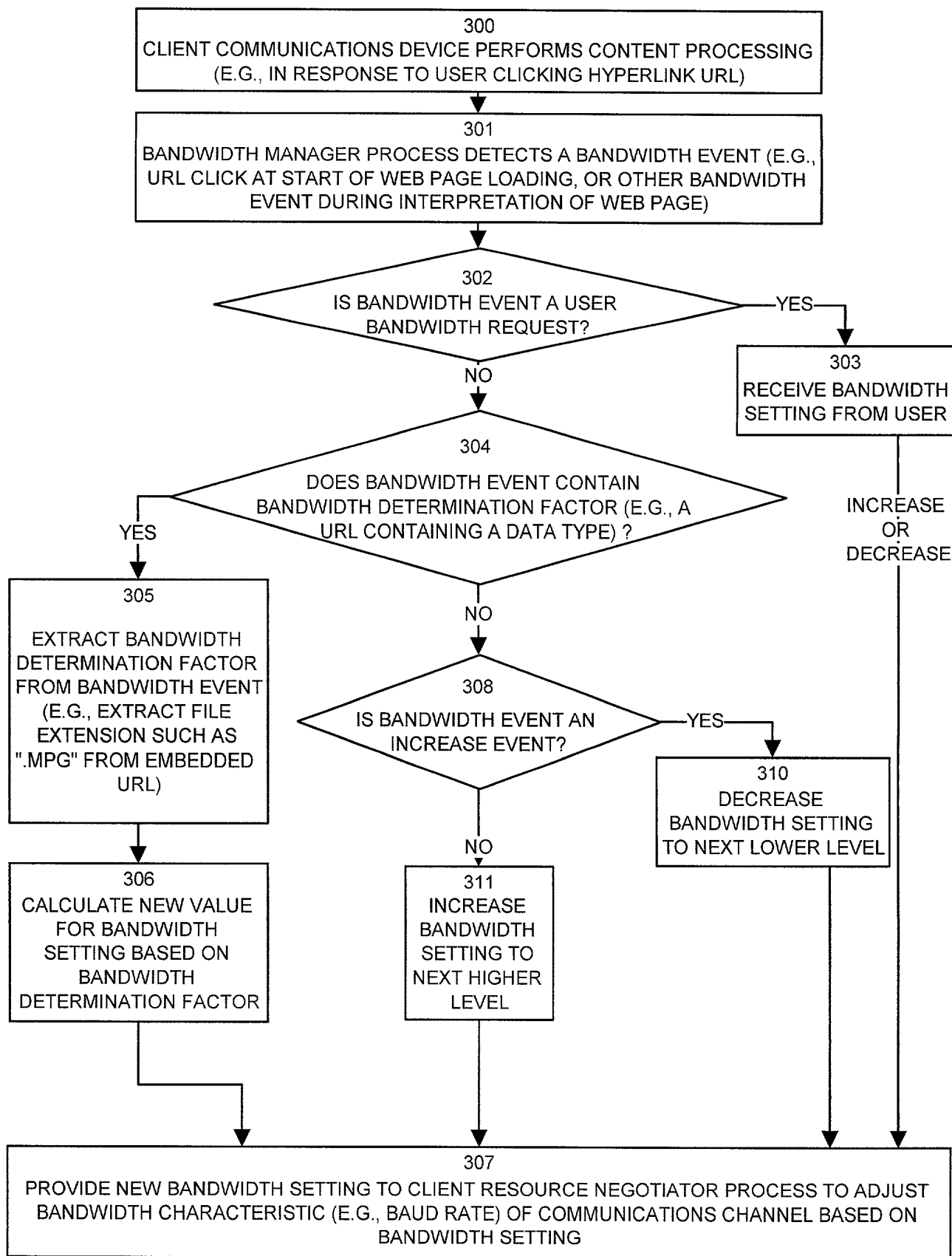


FIG. 5